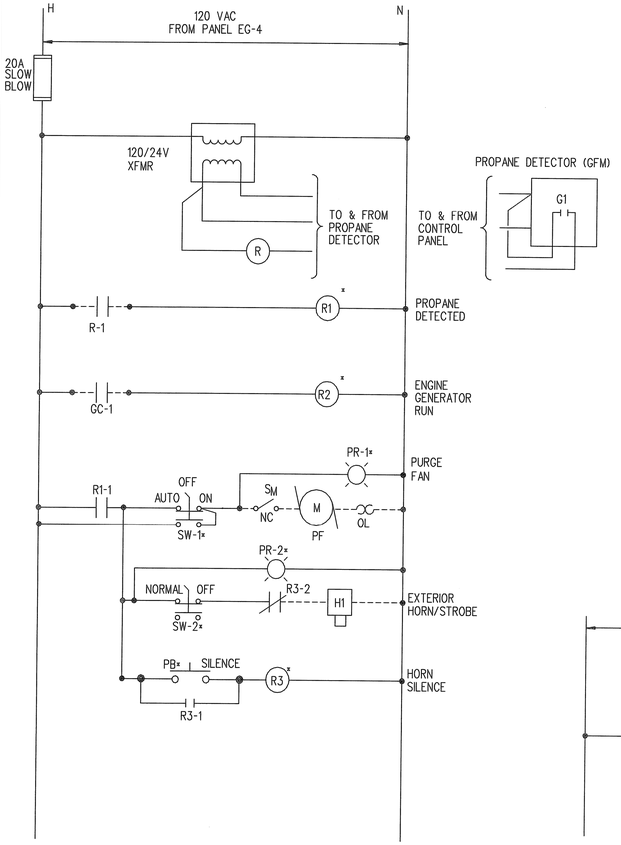
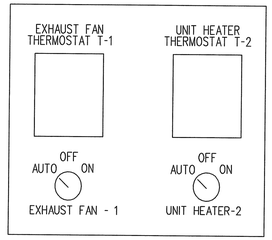
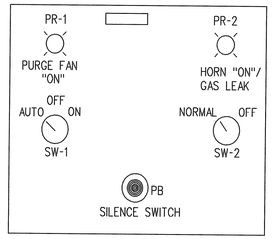
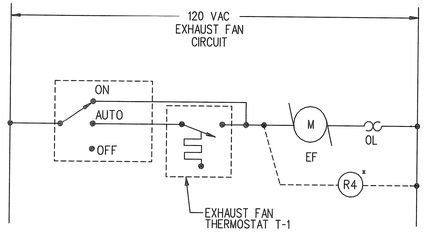


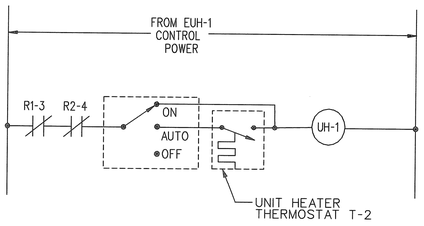


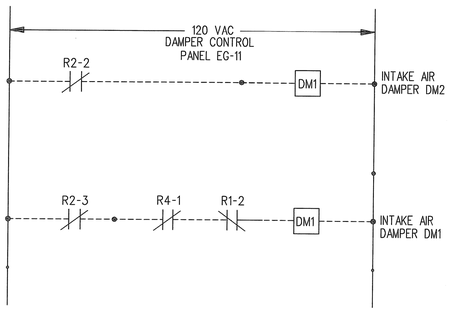
THERMOSTAT PANEL



PROPANE DETECTION PANEL







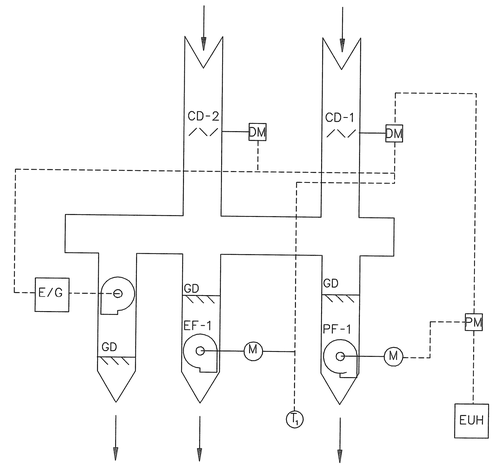
CONTROL WIRING SCHEMATIC

NO SCALE

SEQUENCE OF OPERATION:

PURGE FAN CONTROL (PROPANE LEAK DETECTION SYSTEM)

1. THE PROPANE DETECTOR AND CONTROL PANEL CONTROLS THE PURGE FAN WHEN THE ON-OFF-AUTO SWITCH (SW-1) IS IN THE "AUTO" POSITION. THE PURGE FAN RUNS CONTINUOUSLY WHEN THE SWITCH IS IN THE "ON" POSITION. INDICATOR (PILOT) LIGHT PR-1 LIGHTS WHEN THE FAN IS OPERATING.
2. THE PROPANE DETECTION SYSTEM DETECTS PROPANE AND OPERATES THE ALARM AND EXHAUST SYSTEM.
3. WHEN PROPANE LEAKAGE IS DETECTED, THE PROPANE DETECTION SYSTEM ACTIVATES PILOT LIGHT PR-1, ENERGIZES THE OUTSIDE PROPANE LEAK WARNING LIGHT, OPENS DM-1, DEENERGIZES THE UNIT HEATERS, AND WITHIN FIFTEEN SECONDS (ADJUSTABLE FROM 0-60 SEC.) ENERGIZES THE PURGE FAN, ACTIVATES THE COMBINATION HORN/STROBE ON THE CONTROL PANEL AND THEN TURNS ON THE CONTROL PANEL RED ALARM LIGHT.
4. WHEN PROPANE IS PURGED AND IS NO LONGER SENSED, THE PROPANE DETECTOR AUTOMATICALLY RESETS AND THE CONTROL PANEL, DEENERGIZES THE PURGE FAN, PR-1, PR-3, THE HORN/STROBE, CD-1 AND THE OUTSIDE WARNING LIGHT AND ALLOWS THE UNIT HEATERS TO ENERGIZE. AN ALARM SILENCE SWITCH (PUSH BUTTON TYPE) IS PROVIDED ON THE CONTROL PANEL.
5. THE PROPANE MONITOR SHALL BE GOVERNMENT FURNISHED AND CONTRACTOR INSTALLED. THE PROPANE MONITOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SYSTEM SUPPORT MODIFICATION "SSM-SX-001". THIS DOCUMENT SHALL BE PROVIDED AS A SEPARATE ATTACHMENT. SEE THE SYSTEM SUPPORT DIRECTIVE FOR SPECIFIC REQUIREMENTS FOR THE PROPANE MONITOR INSTALLATION.



EXHAUST SYSTEM CONTROL DIAGRAM

- E/G - ENGINE GENERATOR
- (T1) - THERMOSTAT
- DM - DAMPER MOTOR
- CONTROL DAMPER
- (M) - FAN MOTOR
- PM - PROPANE MONITOR
- GD - GRAVITY DAMPER
- EUH - ELECTRIC UNIT HEATER

- CD - CONTROL DAMPER
- EF - EXHAUST FAN
- EUH - ELECTRIC UNIT HEATER
- G - PROPANE GAS DETECTOR
- GC - GENERATOR RUN CONTACT
- GD - GRAVITY BACKDRAFT DAMPER
- H - HORN STROBE
- M - MOTOR
- NC - NORMALLY CLOSED
- NO - NORMALLY OPEN
- OL - THERMO OVERLOAD
- PB - PUSH BUTTON W/MOMENTARY CONTACT
- PF - PURGE FAN
- PG - PILOT LIGHT (GREEN)
- PR - PILOT LIGHT (RED)
- R - RELAY
- SW - SELECTOR SWITCH
- T - THERMOSTAT

EXHAUST FAN AND DAMPERS

1. THERMOSTAT T1 AND THE ON-OFF-AUTO SELECTOR SWITCH OPERATE THE EXHAUST FAN. THE FAN RUNS WHEN THE SWITCH IS IN THE ON POSITION. WHEN THE SWITCH IS IN THE AUTO POSITION T1 STARTS THE FAN WHEN THE ROOM TEMPERATURE REACHES 90 DEG. F. WHEN THE TEMPERATURE DROPS TO 70 DEG. F., T1 STOPS THE FAN. WHEN THE SELECTION IS IN THE OFF POSITION, THE FAN WILL BE OFF.
2. WHEN THE EXHAUST FAN STARTS, THE EXHAUST FAN DAMPER DM5 AND THE OUTDOOR AIR INTAKE DAMPER DM1 OPEN. WHEN THE EXHAUST FAN STOPS, THE EXHAUST FAN DAMPER AND THE OUTDOOR AIR INTAKE DAMPER DM1 CLOSE.
3. INTAKE AND EXHAUST DAMPERS DM1, DM2, DM3 AND DM4 ARE NORMALLY CLOSED. THEY OPEN WHEN THE ENGINE GENERATOR RUNS. THE DAMPERS FAIL IN THE OPEN POSITION UPON LOSS OF COMMERCIAL POWER.
4. EXHAUST DAMPER DM5 IS NORMALLY CLOSED. INTAKE DAMPER DM1 AND EXHAUST DAMPER DM5 OPEN WHEN THE EXHAUST FAN IS ENERGIZED.

ENGINE-GENERATOR

1. UPON LOSS OF COMMERCIAL POWER WITHIN 2 SECONDS OR THE INITIATION OF A START SIGNAL, THE ENGINE GENERATOR STARTS AND SWITCHES THE SITE TO OPERATE ON GENERATOR POWER FOR AT LEAST 15 MINUTES.
2. AFTER 15 MINUTES OF OPERATION AND THE RETURN OF COMMERCIAL POWER OR REMOTE/MANUAL STOP SIGNAL THE SITE TRANSFERS BACK TO COMMERCIAL POWER. AFTER THE SITE IS TRANSFERRED BACK TO COMMERCIAL POWER THE ENGINE GENERATOR COOLS DOWN FOR 5 MINUTES THEN SHUTS OFF.

ELECTRIC UNIT HEATER

1. THERMOSTAT T-2, AND THE ON-OFF-AUTO SELECTOR SWITCH OPERATE THE UNIT HEATER. IN THE AUTO MODE THE THERMOSTAT STARTS THE UNIT HEATER, WHEN THE SPACE TEMPERATURE FALLS BELOW 55 DEGREES F. WHEN THE TEMPERATURE RISES ABOVE 65 DEGREES F, OR THE ENGINE IS RUNNING OR PROPANE GAS LEAK IS DETECTED, THE UNIT HEATER STOPS.

REV.	DATE	DESCRIPTION	JOB ORDER NUMBER	APPROVED
X	XXXXX	XXXXX	XXXXX	

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
KANSAS CITY IMPLEMENTATION CENTER - KANSAS CITY, MO.

MISC
PROPANE EG CONTROL DIAGRAMS
VARIOUS SITES

SMO	CAEG/ILE ORIGINATED BY:	ISSUED BY	SUBMITTED BY:
		AIRWAY FACILITIES DIVISION 901 LOCUST KANSAS CITY, MISSOURI 64106	Jim Barnett
ORIGINAL JOB ORDER NUMBER	CHECKED BY:		ORIGINAL SIGNED BY: JIM BARNETT
			APPROVED BY: Greg Werner
COORDINATED WITH	ALPHA TYPE	LOCATION / AF/REMOTE / AF/CONTROL / R/CCC	ORIGINAL SIGNED BY: GREG WERNER
	XXXX	XXX / XXX	MASTER USED:
			DATE: 03/26/07

CAEG FILE NAME: CE_VAR_MISC_M_002
DRAWING NO. CESD-D-MISC-M-002
SHEET ___ OF ___
REV X

USERNAME: tim Johnson
DATE/TIME: 04/02/2007 12:11:26 PM
SOFTWARE: MicroStation V8
PATHNAME: $FILES$

$FILES$

(CENTIMETERS)
(INCHES)